

REMARKS

Claims 1-10 and 12 are pending in this application. None of the claims have been amended in this response. The Applicant respectfully requests reconsideration of the rejections of the claims in view of the following remarks.

Claims 1-10 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Nitta et al.* (U.S. Patent No. 4,401,851) in view of *Matsumoto et al.* (U.S. Patent No. 5,848,390). The Applicants respectfully traverse this rejection and request reconsideration for the following reasons.

Specifically, none of the prior art, alone or in combination, teaches “determining a performance index of the computer by a program for computer performance assessment; automatically specifying an input quantity for the voice recognition system using the performance index; and automatically adjusting accuracy of the voice recognition system to an obtained computing power of the computer using the input quantity” as recited in claim 1, and similarly recited in claim 12. Regarding *Nitta*, the reference merely teaches a conventional speech recognition apparatus that divides speech input data into phoneme data and individually recognizing the divided phoneme data (col. 1, lines 44-48). As the Office Action conceded, *Nitte* does not teach any of the features listed above.

In this regard, the Office Action cited *Matsumoto* as allegedly teaching the aforementioned features. However, this assertion is incorrect. *Matsumoto* teaches a method of speech synthesis, whereas the present claims recite a method and apparatus utilizing speech recognition. Furthermore, *Matsumoto* teaches away from the present claims and from the *Nitta* reference, as the reference requires change to the number of quantization bits or the sampling frequency and thus the amount of supply of the speech data (col. 3, lines 29 to 35, and 42 to 48) in order to perform a speech synthesis processing suitable for any computer (col. 2, lines 64 to 65). These measures lead to significant acoustic differences in quality at the replay of the synthesized speech signal.

A speech recognition system as taught by *Nitta* subdivides a recorded speech signal into small sections and extracts feature vectors from every single section. Based on speech models assigned to these feature vectors the speech recognition system recognizes the spoken information (col. 2, line 65 to col. 3 line 13). More generally, a speech signal digitized with high

sampling frequency and high number of quantization bits is more detailed and therefore contains more information than a speech signal digitized with low sampling frequency and low number of quantization bits. Accordingly, the feature vectors of the speech signals are digitized in different ways depending on their configuration.

Matsumoto teaches away from *Nitta* in this regard, as different feature are vectors extracted from the speech signal and, as a consequence, for any special sampling frequency or number of quantization bits chosen, a special speech model would be required for each one of them. As this would lead to additional burdens on storage space, it runs contrary to the goal of running a speech recognition system on computers with low hardware performance. Moreover *Matsumoto* changes the CPU performance based on the sampling frequency or the quantization bit resolution of the input data (Office Action, page 3, line 5 to 7), which teaches away from the present claims, which change the operating sequence of a speech recognition system for adaptation to the computing power as recited in the present claims. In other words, *Matsumoto* alters the CPU performance to match the voice recognition system, while the present claims adjust the voice recognition to accommodate the CPU performance (see, e.g. FIG. 6 and related text of the present application). As a result, the present claims include four modifiable system parameters that enable an user to adjust the accuracy of a speech recognition system in order to run on computers with different hardware performance (pruning threshold, histogram pruning, acoustic look ahead, look ahead in language model, threshold for distance parameters (page 4, lines 17 to 29, Fig 4). Also, *Matsumoto* does not disclose the appropriate measures for the adjustment of the accuracy of a speech recognition system.

The Applicant again maintains that the rejection set forth in the present Office Action does not establish a prima facie case of obviousness. In particular, the Applicant respectfully submits that one of ordinary skill in the art would not perceive suggestion or proper motivation to modify *Nitta* to include features taught by *Matsumoto*. Notwithstanding, the Applicant respectfully submits that, although the Patent Office is not limited to the same motivations to combine references as that of the Applicant, the Office is still bound to meet the requirements of establishing a prima facie case of obviousness. In particular, when modifying a reference in a combination of references, the prior art still must suggest the desirability to one of ordinary skill in the art to combine or modify the references (see MPEP, §2143.01). The fact that references

can be combined or modified is not sufficient to establish a prima facie case of obviousness when the prior art does not suggest the desirability of the combination, regardless of the “motivation” manufactured by the Patent Office.

When considering these teachings of *Nitta* as a whole, one of ordinary skill in the art would not perceive any suggestion that it would be desirable to incorporate a completely different methodology as that disclosed in *Matsumoto* in order to accomplish the object of *Nitta*. Again, merely because these references might be combinable, is not enough to establish obviousness when the desirability of the combination is lacking in this case. The method of *Nitta*, through a particular algorithm, seeks to more accurately reproduce speech data by dividing the input data into phoneme data and individually recognizing the divided phoneme data. Thus, it would not make sense to incorporate the speech generation system of *Matsumoto* with *Nitta*, which is wholly irrelevant to the speech recognition system of *Nitta*, thereby vitiating a purpose of *Nitta* (see *Nitta*, column 1, line 20 – col. 2, line 15). Accordingly, the Applicant respectfully submits that a prima facie case has not been properly established in the rejection of claims 1 and 12 and that this rejection should be withdrawn.


In light of the above, Applicant respectfully submits that independent claims 1 and 12, as well as claims 2-10 which respectfully depend from claim 1, are both novel and non-obvious over the art of record.

In light of the foregoing, the Applicant submits that the present application is in condition for allowance and requests that a timely Notice of Allowance be issued in this case.

It is further acknowledged that no fees are due in connection with this response at this time. However, if any fees are due in connection with this application as whole, the office is hereby authorized to deduct said fees from Deposit Account No. 021818. If such a deduction is made, please indicate the attorney docket number (112740-434) on the account statement.

Respectfully submitted,

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